

## CLAIMS

1. A vapor deposition method using a reactant gas (15) to form a thin film on a substrate (7) in a process chamber (2),  
5        said vapor deposition method using an apparatus including:  
         the process chamber (2);  
         a flow channel (5) for supplying the reactant gas (15) onto said substrate (7) and discharging the reactant gas;  
         a substrate holding portion holding said substrate (7);  
10        moving means (12) for relatively moving the substrate holding portion and said flow channel (5);  
         control means (13) for controlling the moving means (12); and  
         heating means (10) for heating said substrate (7), wherein  
         in advance before crystal growth, said control means (13) measures relative  
15        positions of the flow channel (5) and the substrate holding portion under each growth condition and stores positional data concerning the measured positions, and  
         based on a set growth condition as well as the stored positional data, said control means (13) performs control of the position of the substrate holding portion or the  
         position of the flow channel (5) to decrease a change in relative positions of the flow  
20        channel (5) and the substrate (7).
2. The vapor deposition method according to claim 1, wherein  
         the position of the substrate holding portion or the position of the flow channel  
         (5) is controlled so that a bottom surface (20) on the inside and on a substrate holding  
25        side of the flow channel is almost coplanar with a crystal growth surface (22) of the substrate.
3. The vapor deposition method according to claim 1, wherein

at least two growth conditions are set.

4. The vapor deposition method according to claim 1, wherein  
said growth condition includes a heating temperature of the substrate (7).

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5. The vapor deposition method according to claim 1, wherein  
said growth condition includes an internal pressure of the process chamber (2).

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6. The vapor deposition method according to claim 1, wherein  
said control means (13) completes said control before the set growth condition is  
reached.

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7. The vapor deposition method according to claim 1, wherein  
said control means (13) performs said control before and still after the set  
growth condition is reached.

8. A vapor deposition apparatus using a reactant gas (15) to form a thin film  
on a substrate (7) in a process chamber (2), comprising:

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the process chamber (2);  
a flow channel (5) for supplying the reactant gas (15) onto said substrate (7) and  
discharging the reactant gas;

a substrate holding portion holding said substrate (7);  
moving means (12) for relatively moving the substrate holding portion and said  
flow channel (5);

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control means (13) for controlling the moving means (12); and  
heating means (10) for heating said substrate (7); wherein  
in advance before crystal growth, said control means (13) measures relative  
positions of the flow channel (5) and the substrate holding portion under each growth

condition and stores positional data concerning the measured positions, and

based on a set growth condition as well as the stored positional data, said control means (13) performs control of the position of the substrate holding portion or the position of the flow channel (5) to decrease a change in relative positions of the flow channel (5) and the substrate (7).

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